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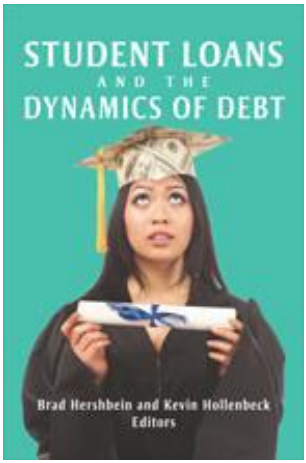

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Chapter 10 (pp. 317-378) in:
Student Loans and the Dynamics of Debt
Brad Hershbein, Kevin M. Hollenbeck, eds.
Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 2015.
DOI: 10.17848/9780880994873.ch10

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2015

W.E. Upjohn Institute for Employment Research
Kalamazoo, Michigan

Library of Congress Cataloging-in-Publication Data

Hershbein, Brad.
Student loans and the dynamics of debt / Brad Hershbein. Kevin M. Hollenbeck.
pages cm
Includes index.
ISBN 978-0-88099-484-2 (pbk. : alk. paper) — ISBN 0-88099-484-3 (pbk. : alk. paper) — ISBN 978-0-88099-485-9 (hardcover : alk. paper) — ISBN 0-88099-485-1 (hardcover : alk. paper)
1. Student loans—United States. 2. Finance, Personal—United States. I. Title.
LB2340.2H47 2014
378.3'620973—dc23

2014043892

W.E. Upjohn Institute for Employment Research
300 S. Westnedge Avenue
Kalamazoo, Michigan 49007-4686

Cover design by Alcorn Publication Design.
Index prepared by Diane Worden.
Printed in the United States of America.
Printed on recycled paper.

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Making Sense of Loan Aversion

Evidence from Wisconsin

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In 2012 total student loan debt in the United States reached an all-time high of $966 billion, with one-third of that debt held by 15 million people under age 30 (Lee 2013). Student loans are now the primary means through which American families finance postsecondary education. With the costs of attendance higher than ever, and grant aid often available only for the financially needy or exceptionally talented, nearly two-thirds of all undergraduates receive at least some government-backed credit to cover those costs. That credit is comparatively accessible, requiring a lengthy application but no credit history, and students and families can borrow a sizable amount of money. Yet not all students and families borrow, even when declining to borrow means that they are hard-pressed to afford college, and there is little evidence to help account for that apparent aversion. Thus, while there is widespread concern about the amount of borrowing and "overborrowing," high rates of delinquency and default in some sectors of the market, and debate about whether the resulting debt-income ratio is appropriate, deepening our understanding of the initial borrowing decision itself remains an important task.

Since college attainment is tightly linked to families' ability to pay for college (e.g., Bailey and Dynarski 2011), substantial inequalities arise from students' need to borrow and their decisions about how to respond to that need. Two groups of students on opposite ends of the income spectrum often find themselves able to avoid borrowing. The

first group is exceptionally wealthy, possessing the financial strength to cover college costs without credit, while the second group is exceptionally poor (and often quite talented), thus receiving sufficient grant aid to cover costs without need for credit. Most students and families fall into the great grey middle in between. These people have demonstrable financial need (as calculated by formulaic federal needs analysis), meaning that there is a gap between their available resources and the costs of college attendance. They are nearly always offered loans, but a sizable fraction decline to take them.[1] This is especially common among students from lower-income families; national data suggest that as many as 45 percent of the neediest undergraduates do not take up loans, even though this leaves them short of the resources required to cover their costs of attendance (Cunningham and Santiago 2008).[2]

Declining loans that could help meet the costs of college attendance is typically referred to as loan aversion and according to some economists constitutes bizarre behavior (Cadena and Keys 2013). But aversion is a frequently used but poorly understood term, since it is unclear whether these students are actually averse to loans (implying a belief about borrowing), have a lack of information about them, or are not offered them at all (The Institute for College Access and Success [TICAS] 2007). In addition, since data on loan aversion typically come from student surveys, it is difficult to know whether stated attitudes translate into action. Finally, there is little systematic information about demographic differences in loan aversion and to what they may be attributed.

This generally weak knowledge base means that it is unclear whether and what kind of intervention is required and/or appropriate to *encourage* borrowing among (some) students to increase their chances of degree completion. In addition, more research is needed to determine the processes underlying the decision to forgo student loans, and in particular whether that decision constitutes loan aversion.

With these challenges in mind, this chapter contributes to the study of loan aversion by drawing on a comprehensive set of information about a focal group of students: Pell Grant recipients. The relatively low graduation rate of Pell recipients is a national concern and the focus of numerous initiatives such as the "Reimagining Aid Design and Delivery" project funded by the Bill and Melinda Gates Foundation. Since the purchasing power of the Pell Grant is at its lowest point in history

(covering just 30 percent of the costs of a public four-year university on average), even low-income students have to cover as much as $12,000 of college costs on their own (Goldrick-Rab 2013). Why do some low-income students accept loans to cover this need while others do not?

We begin by triangulating evidence from both surveys and administrative records to get a handle on how differences in the *measurement* of loan-taking decisions might affect conclusions. We next examine differences in those decisions among more than 600 first- time undergraduates receiving the Pell Grant across 10 of Wisconsin's public universities. In particular, we attend to demographic variation suggested by prior literature, including disparities based on race/ethnicity, parental education, and immigrant status. We also consider the role played by the institutional contexts where students attend college by examining the associations between loan decisions and university characteristics. After replicating some key borrowing disparities noted in earlier studies, we test several explanations for these differences. Specifically, we consider the moderating effects on loan decisions according to families' financial resources; perceived returns to education; financial knowledge; attitudes, beliefs, and dispositions; work behaviors; and social capital. Finally, we examine the evidence regarding the association between loan taking and educational outcomes.

Overall, our findings strongly suggest that the manner in which loan decisions are measured have serious implications about the prevalence and antecedents of so-called loan aversion. Some analyses indicate that the decision to decline loans may be a strategy undertaken by students with strong family commitments and those living in contexts where the use of credit for consumption is normalized. We conclude with a discussion of future areas for research and intervention, noting that there are still many unknowns regarding the consequences of loan taking, both on average and for different groups of students. This chapter suggests that loan aversion may not be something to overcome, but that it may in fact benefit some students, perhaps while hampering the college attainment of others.

TRENDS IN COLLEGE FINANCING AND LOAN TAKING

The United States has never had a free system of public higher education; instead, political goals of equitable opportunity are pursued through a complex price-discounting strategy known as financial aid. To induce students from low-income families to choose college, government, philanthropy, and educational institutions collaboratively frame college enrollment as an affordable decision for all qualified students. Families and students are encouraged to embrace the financial aid system's workings, norms, and values, which include the contention that higher education yields private and public returns, and individuals should therefore feel comfortable taking on debt to invest in their human capital development (Baum and Schwartz 2012; Leslie and Brinkman 1987; Manski and Wise 1983; McPherson and Schapiro 1991). Institutions of higher education are then left to determine the value of their services and set their own prices. The return to individual investments is expressed in terms of increased earnings observed at some time in the future, but it requires significant near-term sacrifice (Carnevale, Rose, and Cheah 2011). Concomitantly, because of the social benefits accrued to an educated populace, the government asserts its authority to help ensure that low-income citizens can pursue higher education through vouchers (such as Pell Grants) and government-managed loan systems (Advisory Committee on Student Financial Assistance 2012).

The availability and use of federal loans has changed radically over time. Prior to the 1992 reauthorization of the Higher Education Act, federal loans consisted almost entirely of subsidized loans targeting needy families. Total federal loan volume was around $22 billion (in 2011 dollars) in 1991–1992. Over the course of the next year, that number grew by almost 50 percent with the introduction of unsubsidized loans, which at the time constituted 9 percent of all student loan dollars across all sources. The growth of unsubsidized loans was dramatic, swelling from about $10 billion (in 2011 dollars) in 1995–1996 to more than $20 billion in 2005–2006, and to almost $50 billion in 2011–2012. Those increases correspond to real declines in family income associated with the recession and increasing college costs, including at public colleges and universities. Growth in subsidized loans was slower, since they are means-tested and less available (Baum and Payea 2012).

Currently, dependent undergraduate students can borrow up to $5,500 in Stafford Loans (including a maximum of $3,500 in subsidized loans) in their first year of study, and up to $6,500 (including up to $4,500 in subsidized loans) in their second year. The limit for the third year and beyond is $7,500 (including up to $5,500 in subsidized loans). Average total borrowing per full-time equivalent undergraduate student rose by 45 percent, from $3,677 (in 2011 dollars) to $5,335 between 2001–2002 and 2006–2007, and by another 4 percent to $5,540, in 2011–2012 (Baum and Payea 2012).

With declining family resources and higher costs of attendance, students today by and large cannot forgo loans and instead turn to work to fill the financial holes. The average unmet financial need of Pell recipients is about $12,000 at four-year colleges and universities; a student must work, at federal minimum wage, almost 35 hours a week, 52 weeks a year, to cover those costs, which research suggests is nearly impossible if the student hopes to complete college on time (Goldrick-Rab 2013). Moreover, while many students have an "expected family contribution," (EFC) which suggests that the family should be able to pay for college, some families are unable or unwilling to do so, and thus students borrow unsubsidized loans to cover that EFC. It is therefore unsurprising that over the last decade, the total number of federal Stafford Loan borrowers increased by 95 percent, from 5.4 million in 2001–2002 to 10.4 million in 2011–2012 (Baum and Payea 2012). This means that the percentage of undergraduates holding loans grew from 23 to 35 percent over that 10-year period. Moreover, the percentage of undergraduates borrowing both subsidized and unsubsidized federal loans grew from 9 percent in 2001–2002 to 25 percent in 2011–2012 (College Board 2012).

Borrowing is more common among students at public universities and less so among students attending public two-year colleges. The percentage of students borrowing to attend public universities has remained steady at around 55 percent since 1999, but the average amount borrowed among bachelor's degree recipients has grown from just over $20,000 to nearly $25,000. In addition, borrowing grew more rapidly from 2005–2006 to 2010–2011 than it had during the preceding five years. Debt per borrower grew at an average annual rate of 2.1 percent beyond inflation, and average debt per graduate grew at an average annual rate of 2.7 percent (Baum and Payea 2012).

Students from low-income families are far more likely to borrow for college. An analysis of bachelor's degree recipients graduating from public universities in 2007–2008 found that 68 percent of students from families earning less than $30,000 per year had an average cumulative debt load of $16,500, while just 40 percent of students from families earning $120,000 or more annually held any debt, with an average amount of $14,500 (Baum and Payea 2012). The resulting disparity in debt-to-income ratio is substantial—low-income families hold debt amounting to about 70 percent of their income, while wealthier families have debt amounting to around 10 percent of income (a rate deemed manageable by the financial industry).[3]

Evidence from several waves of the National Postsecondary Student Aid Study (NPSAS) suggests that between 40 and 50 percent of students borrowing subsidized Stafford Loans took the maximum allowable amount over the past two decades, even after two increases in the maximum. More than one in four students borrowing the maximum amount of federal loans in the 2007–2008 academic year also took out a private loan or a federal PLUS loan (Wei and Skomsvold 2011). This suggests that more students are borrowing close to the limits and that loan caps may contribute to the mistaken appearance of loan aversion. There is some evidence that loan limits may hinder the ability of a small number of students to complete college; for example, recent work by Johnson (2013) found that a simulated $5,000 increase in student loan limits would increase bachelor's degree attainment rates by 0.7 percentage points. Thus, even in the face of growing concern about the overall amount of borrowing, there is some reason to think that in the current context, students from low-income families might face greater odds of college success if they were willing or able to borrow more.

A DESCRIPTIVE PORTRAIT OF LOAN AVERSION

The body of research on loan aversion is mainly descriptive, with a few multivariate studies and laboratory experiments included. These provide a broad sense of the characteristics of students who decline loans, and some targeted tests of whether that apparent aversion can be overcome through intervention.

The NPSAS of 2003–2004 can be used to form a portrait of loan-averse students.[4] An examination of this data by Cunningham and Santiago (2008) confirms that students who decline to borrow have less unmet need—simply put, they do not need to borrow. In addition, among students with a significant amount of unmet need ($2,000 or more), loan aversion is more common among students from low-income families, those who attend part time, and students attending public four-year (rather than private four-year) institutions. Loan aversion is less common among black students compared to white students, and it is more common among Asian and Hispanic students compared to white students.

After comparing these results to data from the 1992–1993 NPSAS, Cunningham and Santiago (2008) note that racial/ethnic differences in borrowing seem to be a new phenomenon, emerging with the growth of students borrowing associated with the use of unsubsidized loans. This raises additional questions about whether the use of subsidized and unsubsidized loans differs by race/ethnicity as well.[5] It is worth noting that research evidence has clearly established racial/ethnic variation in rates of loan default, with black students at the greatest risk of defaulting on their loans (Gross et al. 2009), even as the loans may be more effective in increasing completion rates (Jackson and Reynolds 2013).

Smaller qualitative studies identify similar patterns. For example, Burdman (2005) conducts interviews with students, counselors, outreach professionals, and financial aid administrators that suggest that aversion to loans may reduce opportunities for a subset of low-income and minority students, particularly low-income, first-generation, and Mexican-American students. She finds that students whose parents had less education appeared more likely to work full time and avoid borrowing than students whose parents have college or graduate degrees. Among full-time students, those whose parents did not finish high school were more than twice as likely as those whose parents had graduate degrees to work full time instead of borrowing. Among full-time dependent students, low-income students were less likely to borrow than other students, and when they did borrow, they took smaller loans. But debt aversion, she suggested, may also affect the initial choice of whether and where to attend college—before students have the opportunity to actually receive a loan offer and reject it.

However, other evidence suggests that students may be mislabeled as loan averse when they are actually amenable to borrowing. For example, Eckel et al. (2007) study educational finance preferences using an experiment in which real money was distributed (e.g., the choices were not hypothetical). The sample was drawn from across Canada and included 900 students aged 18–55 who were recruited for participation in the exercise. Based on the results, the authors conclude that debt aversion plays little or no role in the demand for postsecondary education finance in the form of a loan. Students with experience carrying and managing debt are more willing than others to take on additional debt to finance postsecondary education. But presenting students with only loan options for postsecondary education is unlikely to negatively impact investment in postsecondary education, as long as care is taken that the price of the loans is not too high. Johnson and Montmarquette (2011) elicit similar findings in another Canadian study with a sample of low-income and rural students. They find a greater willingness to pay for college with loans among rural respondents, and no systematic loan aversion. Finally, in a third Canadian study, Palameta and Voyer (2010) find that roughly 5–20 percent of their overall sample of low-income high school students was loan averse, depending on the price of the offered grant. In their experimental study, as the price of attending college increased, a higher percentage of students were inclined to choose a stand alone grant but not a grant/loan combination. The results show that overall some underrepresented groups are slightly but significantly more likely to make loan-averse decisions. Of course, it is unclear if the Canadian context and student body is sufficiently similar to the United States to extrapolate these findings.

EXPLANATIONS FOR LOAN AVERSION: THEORY AND EVIDENCE

Loan aversion is often described as common, unfortunate, and not easily overcome, but these depictions are typically based on conjecture rather than evidence. Reports on loan aversion, such as those issued by The Project on Student Debt and the Institute on Higher Education Policy (e.g., Burdman 2005; TICAS 2007; Cunningham and Santiago

2008) tend to point to two explanations for declining loans while possessing unmet financial need: a preference for using alternative sources of financing (e.g., savings or work earnings), or cultural/ethnic perspectives that discourage borrowing. Practitioners suggest that aversion may be growing in response to the Great Recession and news about rising default rates in some sectors. But there are many more theoretical explanations for why students and families may choose to decline to accept the loans offered to them. In this section we adapt a model of understanding the use and effects of financial aid initially described in Goldrick-Rab, Harris, and Trostel (2009).

First, families may vary in their *financial strength*, and this could—in a manner consistent with rational choice theory—lead them to decline loans. Families that can afford the net price of attendance, either because they have sufficient wealth or receive sufficient grant aid, may reject loans offered to them.[6] Again, this is a heterogeneous group—both the wealthiest and poorest families, those with the highest and lowest incomes, the highest and lowest EFCs, and who are facing the highest and lowest net prices are the most likely to borrow. But among students from low-income families, rational choice theory would lead to the expectation that loan aversion is more common among families with greater incomes, a higher EFC, or a lower net price. On the other hand, families with more debt may also be loan averse.

Another explanation for loan aversion points to the problem of *informational asymmetries*. Many policymakers, practitioners, and researchers highlight a large body of economic theory and evidence suggesting that college is an excellent investment for most low-income students, even as loan balances increase (Avery and Turner 2012; Baum and Schwartz 2012). On average, each additional year of education generates a payoff in the labor market, and the lifetime returns to degrees are substantial, even for groups marginalized by race, class, or ethnicity. Even during the recent deep recession, college graduates fared better than high school graduates (Carnevale, Rose, and Cheah 2011). Informational barriers are typically given as the reason why many students and families insist that the costs of attendance are too high and unaffordable (Hoxby and Avery 2012; Hoxby and Turner 2013). At least one U.S. experiment indicates that providing more information can moderately reduce that perception (Hoxby and Turner 2013). However, an experiment in the Netherlands suggests the opposite, finding that

students who receive additional information on the terms of loans do not adjust their loan-taking behaviors over time (Booij, Leuven, and Oosterbeek 2012).

Research by McKinney, Roberts, and Shefman (2013) indicates that many community college financial aid counselors believe that their low-income students do not understand the long-term implications of taking out student loans. Similarly, some researchers contend that college attainment would increase if students had a "payback calculator" in hand when assessing the value of taking on another year of college and its accompanying debt (Haveman n.d.). In particular, if students could compare the value of a government-subsidized loan to the opportunity costs of working, they would choose to borrow (Baum and Schwartz 2012). However, these payback calculators are usually designed to inform the initial attendance decision instead of whether to persist in college and have not been subjected to rigorous experimental testing.

Moreover, at least two studies question whether borrowing for college is inherently rational, noting that students who decline loans may be seeking to avoid temptation or trouble. Dowd (2008) posits that students with stronger senses of self (e.g., internal locus of control and self-control) and correspondingly higher educational expectations ought to behave more like econometricians when making decisions—presumably *increasing* their likelihood of borrowing for college. However, Dowd is unable to empirically test this hypothesis. Instead, Cadena and Keys (2013) indirectly test the hypothesis that loan aversion is driven by self-control. They use two waves of federal NPSAS data by comparing the rates of loan rejection among students who are living on and off campus and are eligible for the maximum amount of subsidized loans. They report that their findings "support a self-control explanation . . . students are rejecting the loans, in part, to avoid the temptation to overspend out of borrowed money" (p. 1118).

It may also be the case that the decision to decline loans is related to students' sense of why they are enrolled and what they aim to achieve, and particularly to variation in their expected returns. Evidence suggests that students repeatedly revise and rethink their rationales for pursuing college degrees, practically on a daily basis, as they proceed through college (Armstrong and Hamilton 2013; Clydesdale 2007; Deil-Amen and Goldrick-Rab 2009; Manski and Wise 1983). Students who are academically prepared for college may perceive borrowing as

less risky, perhaps because pursuing college incurs fewer psychic costs. To be clear, while this idea expands on theories of college as a "great experiment" (Manski and Wise 1983), it is too simplistic to suggest that when college feels worthwhile, students will decide to take on loans, as other contexts can also offset or mediate these decisions. For example, some research indicates that the longer a student is enrolled in college, the less likely she or he is to be risk averse (Davies and Lea 1995). The increase in a student's debt load seems to precede a change in their feelings toward debt—in other words the more debt accrued, the greater the tolerance for debt.

One key attribute of many theories of loan aversion, particularly those drawn from economics, is that they are methodologically individualistic in their approach, assuming that students make borrowing decisions independently. But there is a growing body of research suggesting differential responsiveness to financing options according to the setting and context in which decisions are made (Armstrong and Hamilton 2013; Dowd 2008; Goldrick-Rab, Harris, and Trostel 2009; Hossler, Schmit, and Vesper 1999; McDonough 1997; Paulsen and St. John 1997; Perna 2006, 2008; St. John, Paulsen, and Carter 2005; Tinto 1993). Individuals can make decisions in the context of their familial needs or their community needs, and the role played by those other actors is more important than what is assumed by "preferences" in economic models, since the influence of those contexts can be reciprocal. For example, loan decisions may be both shaped by and contribute to the social and cultural capital students obtain from their relationships (Goldrick-Rab, Harris, and Trostel 2009; McDonough and Calderone 2006; Paulsen and St. John 1997).

More broadly, a student's willingness to borrow may be moderated by university institutional culture—specifically, how university administrators, faculty, staff, and students explicitly and implicitly add (or reduce) college costs by demanding more (or less) from students in order for them to fully engage in college life. Indeed, borrowing behaviors vary substantially by institution and how much time students spend in college. At schools like most of those in this study—public universities—56 percent of students who spent a year or less enrolled without completing a degree borrowed, compared to 63 percent of those who stayed up to two years (Baum and Payea 2012). While such institutional differences in loan taking are well documented, explanations for those

differences are not always articulated (Cunningham and Santiago 2008; Gross et al. 2009).

In *Paying for the Party*, Armstrong and Hamilton (2013) document the impacts of what Jacob, McCall, and Stange (2013) term the "country-clubification" of state universities. Responding to the demands of many wealthy and out-of-state students for the college experiences that preserve and enhance their existing social advantages, these public institutions are increasingly spending limited resources to create opportunities and settings for elitist socialization. High-income students respond positively to higher sticker prices, seeking out colleges and universities that cost *more*, while low-income students prefer institutions that cost less (Hoxby and Avery 2012). The expenses associated with higher sticker prices crowd out other spending, and the resulting climate has the potential to alienate working-class students for whom college is meant to be a route out of poverty, not a visit to elite cultures. They cannot participate without taking on loans, and even with the loans, they often still cannot afford full participation.

On the other hand, loan aversion may be related to the familial environments in which students were raised. This would be consistent with evidence on risk aversion. For example, Hryshko, Luengo-Prado, and Sørensen (2011) provide evidence from the Panel Study of Income Dynamics (PSID), measuring risk aversion based on a set of survey questions probing respondents' willingness to accept jobs with various combinations of income probabilities. Risk aversion is inferred from the answers to these questions, and the composite risk-aversion measure is regressed on a variety of background variables. The authors find that the best demographic predictors of risk aversion are age, gender, and parental education, as well as whether they lived with both parents when they were younger. They find that males and children of more educated parents are less risk averse. While they do not find that income is a predictor of risk aversion, this is partly because parents' education and income are correlated; they do find a simple (negative) correlation with risk aversion as expected.

Absent sufficient social capital to help them understand student loans in particular, students may seek attitude-behavior consistency by either refusing loans because they also refuse credit cards, or reframing student debt as different from other forms of debt so as to justify accepting it. For example, Davies and Lea (1995) describe students who are

averse to taking on debt but maintain consistency between that attitude and their behavior (loan taking in college) by not recognizing student loans as like credit card debt. The way debt is framed may therefore be important to whether or not students accept it. In a laboratory experiment conducted with financial aid recipients in Chile, Colombia, and Mexico, Caetano, Palacios, and Patrinos (2011) conclude that debt aversion—widely detected in their sample—is due to labeling effects. Specifically, labeling a contract as a "loan" decreased its probability of being selected over a financially equivalent "contract" by more than 8 percent. The authors also find that students are willing to pay a premium of about 4 percent of the financed value to avoid a contract labeled as debt. They conclude that debt aversion exists and may potentially distort investments.

Another possibility is that students' orientations toward loans are related to their familial beliefs, particularly their time horizon or future time perspective, a measure of the extent to which individuals focus on the future rather than the present or past. This time horizon is typically measured using a discount rate, which reflects the weight that individuals place on events in the future compared to those of today. Individuals with a future orientation, which is considered a hallmark of "modern" American life, tend to have lower discount rates as they place relatively more weight on the future and a longer time horizon. Meanwhile, a present orientation, with a higher discount rate and a shorter time horizon, is labeled traditional, and in a sense, "backward."

Economists theorize that students who have a long time horizon—those who give considerable weight in their thinking to their long-term well-being—are more likely to make investments with long-term payoffs, including investing in retirement savings and borrowing for school. There are clear socioeconomic differences in time horizons. For example, Lawrence (1991) shows that higher socioeconomic adults (those who tend to be white and who have higher incomes) have longer time horizons. Specifically, these adults evidently "discount" or reduce the value of future costs and benefits at a rate of 12 percent per year, whereas economically disadvantaged adults discount the future at a rate of 19 percent per year, compared to the 8–9 percent yield of long-term Treasury notes during that time frame. Put differently, the time horizon of economically disadvantaged people is less than two-thirds as long as economically advantaged people. Similarly, a study conducted in

Canada examines loan aversion among students from a range of family income backgrounds, using a set of lab experiments. The authors find that loan aversion was more common for low-income students because they had a greater tendency to discount future rewards (Palameta and Voyer 2010).

However, it is also possible that a shorter time horizon is linked to variation in expected returns to college, particularly due to the estimated chances of completing degrees and finding employment after graduation. For example, Latino students interviewed in focus groups in one study expressed an aversion to loans because they must be repaid even if degrees are not completed. They also said they would prefer to make their college choices based on their current economic situations and what they can afford while managing their family and personal responsibilities. "They would rather 'pay as they go,' and they believe they can get a quality education wherever they enroll, as long as they are motivated" (Cunningham and Santiago 2008, p. 18). This may be related to the disproportionate number of Latino (and Asian) students from immigrant families, which tend to operate in unbanked cash economies (Teranishi 2010). Very different results were obtained from a sample studied at one California university (Brint and Rotondi 2008), where the authors report that students no longer think of loans as a burden to be avoided or discharged quickly, but rather as a means of freedom, which opens up (rather than limits) behavioral options. The increased availability of loan repayment options—such as income-based repayment, income-contingent repayment, and pay-as-you-earn—has the potential to reduce the risk of borrowing for college, but these programs are only utilized by a small percentage of eligible students. Only one-tenth of the 15 million students with Federal Direct Loans are enrolled in these income-based options (Chopra 2013).

A low future time perspective, or a past orientation, appears unresponsive to changes in information possessed by the individual. For example, in a study of retirement savings, Jacobs-Lawshen and Hershey (2005) find that increasing the knowledge of financial planning among those with a past orientation induced no increase in their rates of retirement savings. They conclude, "When it comes to savings, it is difficult to overcome a short time horizon. Failing to look to the future ensures a minimal impact of risk tolerance on saving, almost irrespective of how much one knows about financial planning" (p. 339). A criti-

cal question is whether saving for retirement should be thought of as comparable to borrowing for college, given the long-term payoffs, and whether or not borrowing for college is a "failure" in the same way that not saving for retirement is said to be. Additionally, a study by Norvilitis and Mendes-Da-Silva (2013) provides some indication that students with a stronger sense of delayed gratification (a future orientation) have lower levels debt.

Another aspect of students' preferences, which may be grounded in the beliefs of their families, relates to their work orientation. More than 75 percent of undergraduates work, but according to some studies, working during college (especially over long hours), has been linked to lower rates of degree completion (King 2002; Pascarella and Terenzini 2005). Other studies, however, find the opposite (Bozick 2007; Staff and Mortimer 2007; Stinebrickner and Stinebrickner 2003). A posited advantage of loans, therefore, has been the ability to alleviate the need to work (or work so much). But a work orientation may go beyond a preference, especially when one considers the value that some individuals place on working, or what some sociologists refer to as the "centrality" of work. Put simply, people have many reasons for working, some of which are not plainly economic. For example, ethnographic evidence indicates that some students elect to work in order to honor their family or culture, or because they have always worked (Mortimer 2003; Weis 1985). If work is central to the lives of students, serving to connect them to others and bring meaning to their lives, then it may well not be replaced with loans (Feldman and Doerpinghaus 1992; Lobel 1991).

It may also be the case that students vary in the social capital they can draw on to understand and make sense of loans. One of the primary difficulties with current financial aid policy is that it is poorly understood by nearly all of its constituents (Goldrick-Rab and Roksa 2008). Most people do not know what opportunities for aid exist, how to access the various programs, and what one can expect to receive. Low-income parents and students are less likely to receive high-quality information about financial aid opportunities, and as a result are less likely to file a federal application for student aid (FAFSA) or apply to more expensive colleges (which may, in fact, offer them a better financial aid package) (Long 2008). Upper-income students receive information about college from a variety of sources, while low-income students rely on their high school counselors, largely because their parents and siblings

did not attend college (Cabrera and La Nasa 2000). As a result, students from poor families who would likely qualify for all or nearly all of the aid required to finance college fail to even apply, since they have limited access to information about how to apply for aid, little assistance in filling out the extraordinarily complex application, and substantial (and warranted) fears that college is unaffordable. Students from low-income families who are insufficiently educated as to the variation in quality among college financing strategies, and frustrated by the time-consuming nature of the application process, unwittingly take on high-interest private loans, credit cards, or off-campus employment without complete knowledge of the consequences (Cabrera and La Nasa 2000). Thus, the amount of social capital held, as embodied in, for example, assistance with the FAFSA, may explain disparities in loan aversion.

RESEARCH QUESTIONS AND HYPOTHESES

Drawing on this wide array of prior economic and sociological theory and evidence, we conceive of the choices involved in accepting or rejecting student loans as involving both individual-level and family or community decisions. We ask the following five research questions:

1) How does the way loan aversion is measured affect the assessment of which students are loan averse?
2) What are the key demographic disparities in loan aversion among students from low-income families?
3) Which of the following factors appears to moderate those observed disparities in loan aversion: family financial strength; perceived returns to degree; financial knowledge; attitudes, beliefs, and dispositions; work behaviors; and social capital?
4) How is the assessment of these moderators affected by measurement of loan aversion?
5) How is loan aversion related to postsecondary outcomes?

METHODOLOGY

Using survey and administrative records for a sample of Pell Grant recipients participating in the Wisconsin Scholars Longitudinal Study (WSLS), we examine the incidence and correlates of loan-taking behaviors among low-income students—all of whom have unmet financial need—and consider a range of potential explanations for observed variation in these.[7] To examine the reasons for loan aversion, we focus on a relatively young sample of first-time, full-time undergraduates attending two-year and four-year colleges in one state's public higher education system. In addition, after exploring institutional differences in loan taking, we use college fixed effects to control for any institutional differences and focus on student-level differences.

Setting

This study takes place in Wisconsin, where more than 80 percent of undergraduates are enrolled in the public University of Wisconsin (UW) System and Wisconsin Technical College System. As in many states, over the past decade state appropriations per full-time equivalent student have declined (State Higher Education Executive Officers 2013). As a result, the costs of attendance continue to rise, and demonstrated need unmet through financial grant aid is swelling. For example, in 2010–2011, the average family contribution to college costs in the UW System was $4,686, the average amount of need-based aid was $7,303, and the average amount of unmet financial need was $5,236—up from $1,951 in 2002–2003 (Wisconsin Higher Educational Aids Board 2012).

Wisconsin is also typical when it comes to key indicators of college access and success. The on-time college-going rate among high school graduates is 61 percent (the national average is 62 percent), the average ACT composite test score is 22 (the national average is 21), 52 percent of undergraduates file applications for financial aid (compared to 50 percent nationally), the first-to-second-year retention rate at universities is 77 percent (76 percent nationally), and the six-year graduation rate for bachelor's students is 58 percent (56 percent nationally) (Goldrick-Rab and Harris 2010).

Data

Data for this study come from multiple sources, and all details of each measure are provided in Table 10.1. We utilize two measures of loan aversion. The first is based on a question administered in a survey conducted during the students' first semester of college, in fall 2008. As part of a much longer survey about college plans and finances, students were asked: "Suppose you could take out a loan up to $10,000 with a 7 percent interest rate. How much money would you take?" Students could choose from the following five choices: $0, $1,000, $2,500, $5,000, and $10,000. In fall 2008, the interest rate on subsidized student loans was 6.0 percent, and for unsubsidized student loans the rate was 6.8 percent.[8] We did not tell the students this information in the survey, and the overall responses and level of financial aid knowledge suggested in the study provide little reason to think that they were aware the degree to which the rate we inquired about was slightly higher than the current unsubsidized rate and a point higher than the subsidized rate. At the time data were collected, income-based repayment was not available.[9] We code students who said they would take *none* of the loan they were offered as loan averse.

In addition, we used information from students' financial aid packages, also obtained in fall 2008, which indicated whether students were offered loans, how much they were offered and of what type (subsidized or unsubsidized), and the amount accepted. This is an uncommon approach, as few data sets include loan offered, usually only recording the loans accepted.[10] We code a student as loan averse if she refused all loans offered in that term.[11] We also include a substantial number of demographic characteristics and measures of moderating concepts drawn from both survey and administrative data. All details on these are found in Table 10.1.

Sample

The overall WSLS sample includes 3,000 students. For this chapter, we focus on a subsample that includes the 684 students attending 10 of the state's 13 public universities and the 13 public two-year colleges for whom we observe both the key survey and administrative measures of loan aversion described above. The sample is 58 percent female and

74 percent non-Hispanic white, and almost 80 percent of the students lack a parent with a bachelor's degree. About 4 percent of the students are first-generation immigrants, 10 percent are second-generation, and 9 percent speak a language other than English in their homes. On average, in their first year of college these Pell recipients faced a net price of more than $8,000 after taking all grant aid into account. Most of them had a substantial amount of unmet financial need, as defined by the cost of attendance less all grant aid. On average, unmet need was $7,700. More specifically, over 85 percent had unmet need exceeding $3,500 (the maximum subsidized Stafford Loan for first-year students), and 72 percent had unmet need of greater than the $5,500 that first-year students may borrow in subsidized and unsubsidized loans.

Almost 17 percent of these students grew up in poverty, and almost one-third qualify for a zero expected family contribution, meaning that their families are not expected to pay anything toward their postsecondary education. About 12 percent of students reported providing financial support to their families when attending school, with more than one-third feeling a sense of financial obligation to their families, and 25 percent drawing no monetary support from their families. They held very little credit card debt—just about $150 on average. Fifty-eight percent of students in the sample did not even have a credit card.

In terms of academic preparation, students had an ACT score of just over 21, the statewide average, and nearly three quarters had strong high school preparation for college, but only about half said it was extremely likely that they would complete a bachelor's degree, and one in five said they were having trouble with college. On average, they expected to enter a career paying just over $60,000 per year. Slightly more than 60 percent of students answered at least 12 of 15 questions regarding financial knowledge correctly, and just under half said they were competent at managing their money.

This sample of Pell Grant recipients exhibits a long time horizon and overwhelming willingness to sacrifice today's needs for their future potential. Very few indicate a general averse to all forms of debt. About 95 percent evidenced an internal locus of control, and 75 percent said that debt was not a normative part of today's lifestyle or that taking out loans was a good thing to help you enjoy life. The vast majority worked while in high school, and about half worked while in college as well, an average of eight hours per week.

Table 10.1 Description of Measures, Sources, and Coding

Concept/measure	Source	Question wording (survey)	Response categories	Coding
Loan aversion				
Aversion A	Baseline survey, Fall 2008	Suppose you could take out a loan up to $10,000 with a 7 percent interest rate. How much money would you take?	$0, $1,000, $2,500, $5,000, and $10,000	Loan averse = $0
Aversion B	Financial aid package, Fall 2008			Loan averse = accepted $0 of loan offered, conditional on offer
Demographics				
Gender	Baseline survey, Fall 2008	What is your gender?	Female, male	Female = 1
Race/ethnicity	Baseline survey, Fall 2008	What is your race/ethnicity?	Non-Hispanic White, African-American, Latino, Southeast Asian, Native American	If multiple categories were checked, the underrepresented group = 1
Parental education	Baseline survey, Fall 2008	What is the highest level of education completed by either parent?	Grade 1–8, some high school, GED, high school graduate, some college/technical degree/ associate's, bachelor's degree, master's degree or above	First-generation student = no parent with more than high school degree
Immigrant status	Baseline survey, Fall 2008	Were you/your mother/your father born in the United States?	Yes/no	1st gen = student born outside U.S.; 2nd gen = either parent born outside U.S.
Primary language	Baseline survey, Fall 2008	What language is spoken most often inside your family's home?	English, Spanish, Hmong, Chinese, other	Other than English = 1

Institutional cost				
Net price	Financial aid package, Fall 2008			Difference between institutional cost of attendance and all grant aid awarded to student
Family financial strength				
Childhood poverty	Survey, Fall 2009	"When I was growing up there wasn't enough to eat at home." "When I was growing up I had to wear secondhand clothes."	Indicate if true	If either answer is yes, poverty = 1
Expected family contribution	Financial aid package, Fall 2008			Computed using 2008 FAFSA and federal formula; both continuous measure and flag for $0 EFC (lowest) included
Financial reciprocity	Baseline survey, Fall 2008	"Since starting college, have you regularly given any family or friends (not including spouses) more than $50 per month? Do not include loans."	Yes/no	Coded 1 = yes
Financial obligation to family	Baseline survey, Fall 2008	"I feel obligated to support my family financially."	5-point Likert scale indicating agreement/disagreement	1 = Somewhat or strongly agree
No financial help from family	Baseline survey, Fall 2008	"In the past year…my family provided money for my education."	5-point Likert scale indicating agreement/disagreement	1 = Not at all
Credit card debt	Baseline survey, Fall 2008	"How much do you owe on all of your credit cards combined?"	<$100; $100–499; $500–999; $1,000–4,999; $5,000 or more	

(continued)

Table 10.1 (continued)

Concept/measure	Source	Question wording (survey)	Response categories	Coding
Perceived returns to degree				
Likely to complete degree	Baseline survey, Fall 2008	"How likely are each of the following scenarios; you will get a bachelor's degree"	5-point Likert scale indicating agreement/disagreement	1 = Extremely likely
ACT score	ACT record data			
Strong high school coursework	Financial aid package, Fall 2008	Presence or absence of "Academic Competitiveness Grant"	ACG was a federal grant indicating the student had completed rigorous high school coursework, based on an analysis of transcripts	1 = ACG present
Course difficulty	Baseline survey, Fall 2008	"Classes are more difficult than I expected."	5-point Likert scale indicating agreement/disagreement	1 = Somewhat or strongly agree
Expected monetary returns to degree	Baseline survey, Fall 2008	"For the career you most plan to have, how much money do you expect to make in a year?"	Fill in blank	Logged earnings
Financial knowledge				
Overall knowledge	Baseline survey, Fall 2008	"What is the difference between a grant and a loan?" "Which statement best describes the difference between a subsidized and unsubsidized loan?" And two series of questions about financial aid criteria and credit scores	15 Items testing general financial literacy and specific financial aid knowledge (see notes for more)	Coded 0–15, also high = 12+

Perceived competence with money	Baseline survey, Fall 2008	"How well do you think you handle managing money?"	5-point Likert scale	1 = Very or extremely well
Attitudes, beliefs, dispositions				
Time horizon	Baseline survey, Fall 2008	"If you were guaranteed you would receive the money, which of the following options would you select right now?"	$75 right now; $100 in 3 months; $250 in one year; $500 in 3 years	Coded as four binary variables ($75 right now omitted)
Willingness to sacrifice	Baseline survey, Fall 2008	"I am willing to sacrifice today so that my life will be better tomorrow."	5-point Likert scale indicating agreement/disagreement	1 = Somewhat or strongly agree
Generalized debt aversion	Baseline survey, Fall 2008	"Is it ever okay to borrow money?"	Yes/no	1 = Yes
Self-control	Baseline survey, Fall 2008	"Being in debt is part of today's lifestyle." "Taking out a loan is a good thing because it allows you to enjoy life."	5-point Likert scale indicating agreement/disagreement	1 = Somewhat or strongly disagree with either statement
Internal locus of control	Baseline survey, Fall 2008	"I am responsible for what happens to me."	5-point Likert scale indicating agreement/disagreement	1 = Somewhat or strongly agree
Work behaviors				
Worked in high school	Baseline survey, Fall 2008	"When you were a high school senior how many hours, on average, did you work each week?"	Open-ended	Coded 1= if any hours recorded
Currently working	Baseline survey, Fall 2008	"Have you been working since you started college?"	Yes/no	Coded 1 = yes

(continued)

Table 10.1 (continued)

Concept/measure	Source	Question wording (survey)	Response categories	Coding
Number of hours working	Baseline survey, Fall 2008	"In the last seven days how many hours did you spend working on-campus? Working off-campus?"	Open-ended	Total number of hours recorded
Social capital				
FAFSA assistance-person	Baseline survey, Fall 2008	"Who helped you fill out your financial aid application? Check all that apply."	Parent, sibling, spouse, guidance counselor, friend, someone else, no one (filled it out myself)	No help; family (parent, sibling spouse); other (friend, guidance counselor, someone else)
FAFSA assistance-level of education	Baseline survey, Fall 2008	"Did the person who helped you earn a college degree?"	Yes/no	Coded 1 = yes
Confident help is available	Baseline survey, Fall 2008	"How confident are you that, if faced with financial problems, you could get help from other people rather than dropping out of school?"	5-point Likert scale	1 = Very or extremely confident
Academic outcomes				
Enrollment	National student clearinghouse records and college transcripts by term			

Credits earned	College transcripts by term	
On 4-year degree track	College transcripts by term	Completed 90 credits within 3 years
Semesters enrolled		Total number of terms enrolled
Cumulative GPA	College transcript	

NOTE: The data set includes a measure of religious preference and a measure of work centrality but both lack sufficient variation for inclusion. Measures of financial knowledge include A) In your opinion what is the difference between a grant and a loan? (i) Grant comes from Federal government, loans come from Wisconsin**;** (ii) A grant doesn't have to be paid back; a loan has to be paid back; (iii) A grant has to be paid back but no interest is charged, a loan must be paid back and interest is charged. B) Which of the following describes the biggest difference between subsidized and unsubsidized Stafford Loans? (i) A subsidized loan does not charge interest, an unsubsidized loan charges interest, (ii) a subsidized loan is paid for by parents, an unsubsidized loan is paid off by students, (iii) a subsidized loan costs students more than an unsubsidized loan, (iv) a subsidized loan does not charge interest until the student leaves college, an unsubsidized loan begins to charge interest as soon as the student receives the loan. C) Agree/disagree: A government loan is a kind of financial aid. D) Agree/disagree: The money students earn while working in college is used to calculate how much aid they get. E) Agree/disagree: If a student earns more than a certain amount from working, their financial aid might be reduced. F) Agree/disagree: Students receive the same amount of financial aid for every year they are in school. G) Agree/disagree: Students will receive the same amount of financial aid if they switch schools. H) Agree/disagree: Students who take time off from school will get the same amount of financial aid if/when they return**.** I) Which of the following factors are used to calculate credit scores? Check all that apply: number of jobs held, amount of existing debt, gender, whether payments were made on time, types of credit used, race/ethnicity, recent applications for credits cards or other loans.

It is worth noting that Avery and Turner (2012) hypothesize that the FAFSA is one of the greatest deterrents to loan taking, but in this sample we observe a substantial group of needy students who complete the FAFSA and still decline all loans. Most students in the sample (87 percent) got assistance from a family member when completing the FAFSA for college, with about 42 percent getting assistance from a college-educated person. But only about one-third reported being confident that they could obtain financial help if in trouble so as to avoid leaving college. Overall, about 70 percent of these students remained enrolled at their initial institution a year after they first began.

Table 10.2 also compares the characteristics of this sample to the characteristics of all students in the WSLS attending those same universities and colleges. There are some notable differences between the analytic sample and the overall WSLS sample, with the analytic sample being less racially diverse and by some measures more economically advantaged. These are important considerations when thinking about the generalizability of the results.

Analysis

We use blocked probit regressions with marginal effects to examine potential explanations for why students decline loans—we do this first using the administrative measure (Table 10.6) and then the survey measure (Table 10.7). We also use probit regression to examine the association between loan aversion and college performance and retention.

BORROWING BEHAVIORS AMONG PELL GRANT RECIPIENTS

Next, we describe the findings regarding the measurement of loan aversion, the characteristics of loan-averse students, and the characteristics of institutions where loan-averse students are more or less prevalent.

Table 10.2 Descriptive Statistics by Sample Inclusion

Characteristic	Not in sample	Analytic sample difference
Female (%)	54.6	4.2
		(2.7)
Race/ethnicity (%)		
Non-Hispanic white	69.4	5.1*
		(2.8)
Latino	7.3	−1.8
		(1.5)
Hmong (Southeast Asian)	10.0	−2.4
		(1.8)
Native American	4.3	−1.3
		(1.2)
Black	6.8	0.8
		(1.5)
Parental education < bachelor's degree (%)	78.6	0.9
		(2.5)
Immigrant status		
First-generation (%)	6.9	−2.4*
		(1.4)
Second-generation (%)	12.0	−2.5
		(2.0)
English not first language (%)	12.4	−3.4*
		(1.9)
Institutional cost		
Net price ($)	6,199	1,596***
		(322)
Family financial strength		
Childhood poverty (%)	9.3	6.8***
		(1.8)
Expected family contribution ($)	1,447	280***
		(107)
Zero EFC (%)	35.0	−7.6***
		(2.5)
Financial reciprocity (%)	12.6	−1.4
		(2.0)
Financial obligation to family (%)	34.5	−1.3
		(3.0)

(continued)

Table 10.2 (continued)

Characteristic	Not in sample	Analytic sample difference
No financial help from family (%)	20.0	5.7**
		(2.6)
Credit card debt ($)	107	54*
		(29)
Perceived returns to degree		
Likely to complete bachelor's degree (%)	51.6	1.5
		(3.2)
ACT score	21.5	0.2
		(0.4)
Strong high school coursework (%)	71.9	5.6
		(4.0)
College difficulty (%)	20.5	12.8
		(2.4)
Expected monetary returns to degree ($)	60,362	438
		(3,725)
Financial knowledge		
Overall knowledge	11.8	0.2
		(0.1)
High financial knowledge (%)	59.5	3.8
		(3.1)
Perceived financial competence (%)	42.8	1.7
		(3.1)
Attitudes, beliefs, and dispositions		
Time horizon (%)		
$75 right now	22.5	−2.4
		(2.6)
$100 in three months	16.2	−0.4
		(2.4)
$250 in one year	16.1	0.4
		(2.3)
$500 in three years	45.2	2.4
		(3.2)
Willing to sacrifice (%)	76.1	7.8***
		(2.6)

Table 10.2 (continued)

Characteristic	Not in sample	Analytic sample difference
Generalized debt aversion (%)	5.9	−0.1
		(1.4)
Self-control (%)	79.7	−3.5
		(2.6)
Internal locus of control (%)	94.5	2.8**
		(1.3)
Work behaviors		
Worked in high school (%)	83.8	3.0
		(2.2)
Currently working (%)	53.2	−0.2
		(3.2)
Current number of hours working	8.6	−1.0
		(0.8)
Social capital		
FAFSA assistance—type of person (%)		
No help—filled out alone	9.0	3.4*
		(1.9)
Family	87.0	−3.0
		(2.2)
Other person	14.3	−4.0*
		(2.1)
FAFSA assistance from college-educated person (%)	42.3	0.2
		(3.1)
Confident help is available (%)	34.5	3.3
		(3.0)
Retention at initial college in year 2 (%)	69.5	2.8
		(2.5)
Maximum sample size	880	684

NOTE: *p < 0.10; **p < 0.05; ***p < 0.01. Standard errors are in parentheses. Loan aversion categories were defined in the following ways: 1) Administrative: If a student accepted none of his/her loan offer (if offered any). 2) Survey: If responded he/she would not take any money at a 7 percent interest rate. The sample includes students at included UW System campuses only.

SOURCE: Sources for each measure are listed in Table 10.1.

Measurement

As noted earlier, most research on loan aversion has been conducted using either in-depth interviews or surveys. Measuring loan aversion in this way inherently relies on student self-reports of attitudes and/or behaviors and does not capture their actual behaviors. For this reason, we begin with a simple analysis triangulating how these two sources of data align when it comes to classifying students as loan averse. In total, 48 percent of the sample is loan averse according to either the survey or the administrative measures. The survey measure classifies 401 of students as loan averse, while the administrative measure applies that label to just 128 students. As Table 10.3 indicates, we find that the correlation between the survey and administrative measures is weak ($r = 0.21$) and aligned for only 64 percent of the sample, with 52 percent agreement that a student is *not* loan averse, and 12 percent agreement that the student *is* loan averse. Fully 29 percent of the sample would be classified as loan averse using the survey measure, even though in practice they accepted loans. In addition, 7 percent of students who said they would *not* borrow loans according to the survey *did* accept loans according to the administrative data. While these differences could be explained by other factors (for example, students might report not *wanting* to take loans but do it anyway), and therefore this evidence is not sufficient to record these as "misclassifications," the apparent disconnect is worthy of further investigation.

It is possible that some students who expressed loan aversion on the survey may have done so because they had already accepted loans and did not (or could not) want to borrow more. Nearly 72 percent of students whom according to the survey might be loan averse do appear

Table 10.3 Relationship between Survey and Administrative Data Measures of Loan Aversion

	Administrative data (%)	
Survey data	Borrower	Loan averse
Borrower	52	7
Loan averse	29	12

NOTE: Total sample size = 684; percentaged according to that total $R = 0.213$.
SOURCE: Survey data are from the fall WSLS, and administrative data are from the University of Wisconsin system.

to be in this category, suggesting that loan aversion using survey data may be overstated. On the other hand, the survey classified about 7 percent of students as willing to accept loans, even though the administrative data indicate that they refused the loans they were offered. This may be because students regretted the decision to refuse loans and were expressing on the survey a wish to take them, or because on the survey the students meant they would take them, but not right now or not under the conditions in which they were offered.

Given the indication of apparently substantial measurement error present when loan aversion is measured using survey data, we take additional steps in the next analyses to consider which students may be mislabeled as loan averse when only survey data are used.

Student-Level Differences in Borrowing

Table 10.4 displays the differences in characteristics between loan-averse students and borrowers using both the administrative data measure of loan aversion and the survey measure of loan aversion. The overall trends in student characteristics are consistent with most prior research. We find that Southeast Asian students (predominately Hmong in this sample) are greatly overrepresented among loan-averse students, while African Americans are substantially overrepresented among loan takers. Both first- and second-generation immigrants and students for whom English is not spoken at home are far more likely to be loan averse. In this sample of students from low-income families, where almost 80 percent of students do not have at least one parent with a bachelor's degree, more parental education seems to lead to less loan aversion. Students facing higher net prices were also less likely to be loan averse.

Notably, students from families with less financial strength are more often loan averse. This is also more common among students who grew up in poverty or have lower expected family contributions, and among those who report that their families do not provide monetary support for their college education and yet feel obligated to financially support their family while in college.

We hypothesized that students who perceive stronger returns to their degrees would be more likely to borrow for college, but we find limited support for this assertion. Overall, it seems that students with

Table 10.4 Descriptive Statistics by Borrowing Behavior

Characteristic	Admin. sample		Survey sample		Test for measurement difference (p-value)
	Borrowers	Loan averse difference	Borrowers	Loan averse difference	
Demographics					
Female (%)	57.8	5.6	59.8	−2.4	0.167
		(5.2)		(4.1)	
Race/ethnicity (%)					
Non-Hispanic White	76.4	−10.9**	74.9	−0.9	0.051
		(4.8)		(3.5)	
Latino	5.1	2.5	5.8	−0.7	0.262
		(2.6)		(1.8)	
Hmong (Southeast Asian)	5.3	13.5***	5.2	5.9***	0.032
		(3.7)		(2.2)	
Native American	2.9	0.6	2.8	0.6	0.992
		(2.0)		(1.4)	
Black	8.4	−4.8***	9.0	−3.5*	0.622
		(1.8)		(2.0)	
Parental education < bachelor's degree (%)	79.9	−2.4	80.8	−3.4	0.858
		(4.4)		(3.3)	
Immigrant status					
First-generation (%)	3.2	7.3***	2.2	5.4***	0.468
		(2.8)		(1.7)	

Second-generation (%)	8.1	8.0**	8.6	2.2	0.115
		(3.7)		(2.4)	
English not first language (%)	6.2	16.2***	6.5	5.9**	0.008
		(4.0)		(2.4)	
Institutional cost					
Net price ($)	8,027	−1,322***	8,391	−1,428***	0.808
		(385)		(290)	
Family financial strength					
Childhood poverty (%)	15.3	4.5	15.0	2.6	0.654
		(4.1)		(3.0)	
Expected family contribution ($)	1499	−396***	1475	−109	0.062
		(137)		(113)	
Zero EFC (%)	27.6	6.3	27.3	3.5	0.614
		(4.9)		(3.8)	
Financial reciprocity (%)	10.8	2.4	11.3	−0.2	0.486
		(3.4)		(2.6)	
Financial obligation to family (%)	31.3	11.1**	29.8	8.4**	0.638
		(5.2)		(4.0)	
No financial help from family (%)	23.7	11.2**	25.6	0.3	0.043
		(5.0)		(3.7)	
Credit card debt ($)	157	24	220	−139***	0.066
		(69)		(41)	

(continued)

Table 10.4 (continued)

Characteristic	Admin. sample		Survey sample		Test for measurement difference (p-value)
	Borrowers	Loan averse difference	Borrowers	Loan averse difference	
Perceived returns to degree					
Likely to complete bachelor's degree (%)	53.5	−1.9	53.2	−0.2	0.774
		(5.3)		(4.1)	
ACT score	21.8	−0.7	21.5	0.5	0.014
		(0.4)		(0.3)	
Strong high school coursework (%)	78.9	−8.1*	75.9	3.8	0.020
		(4.6)		(3.4)	
College difficulty (%)	34.1	−4.1	37.7	−10.4***	0.253
		(4.8)		(3.8)	
Expected monetary returns to degree ($)	61,510	−4,228	60,844	−108	0.487
		(4,306)		(4,442)	
Financial knowledge					
Overall knowledge	12.0	−0.2	12.0	0.0	0.280
		(0.2)		(0.2)	
Above average financial knowledge (%)	63.2	0.8	62.1	3.0	0.702
		(5.2)		(4.0)	
Perceived financial competence (%)	44.1	1.7	41.8	6.3	0.436
		(5.3)		(4.1)	

Attitudes, beliefs, and dispositions					
Time horizon (%)					
$75 right now	20.8	−3.7	22.1	−4.7	0.830
		(3.9)		(3.2)	
$100 in three months	16.5	−3.7	16.4	−1.4	0.581
		(3.3)		(3.0)	
$250 in one year	16.8	−1.7	18.5	−4.8	0.405
		(3.9)		(3.0)	
$500 in three years	46.0	9.1*	43.0	11.0***	0.747
		(5.2)		(4.1)	
Willing to sacrifice (%)	84.1	−1.2	84.3	−0.9	0.945
		(3.9)		(3.1)	
Generalized debt aversion (%)	5.4	2.7	5.7	0.3	0.440
		(2.7)		(1.9)	
Self-control (%)	74.8	8.1**	70.7	13.2***	0.262
		(4.0)		(3.4)	
Internal locus of control (%)	97.5	−0.9	97.0	0.9	0.414
		(1.8)		(1.3)	
Work behaviors					
Worked in high school (%)	87.0	−1.0	88.1	−3.0	0.621
		(3.4)		(2.8)	
Currently working (%)	50.8	13.1**	50.1	6.9*	0.303
		(5.3)		(4.2)	
Current number of hours working	6.9	3.9***	7.2	0.9	0.014
		(1.2)		(0.8)	

(continued)

Table 10.4 (continued)

Characteristic	Admin. sample		Survey sample		Test for measurement difference (p-value)
	Borrowers	Loan averse difference	Borrowers	Loan averse difference	
Social capital					
FAFSA assistance—type of person (%)					
No help—filled out alone	12.7	−1.6	11.9	1.3	0.493
		(3.4)		(2.8)	
Family	84.6	−3.5	84.9	−2.1	0.767
		(4.0)		(3.0)	
Other person	8.7	9.4**	10.4	−0.2	0.018
		(3.9)		(2.4)	
FAFSA assistance from college-educated person (%)	42.0	2.8	40.0	6.0	0.587
		(5.2)		(4.1)	
Confident help is available (%)	38.1	−1.8	32.8	12.0***	0.016
		(5.1)		(4.0)	
Retention at initial college in year 2 (%)	76.2	0.6	72.1	10.2***	0.055
		(4.4)		(3.4)	
Sample size	556	128	401	283	

NOTE: *p < 0.10; **p < 0.05; ***p < 0.01. Standard errors are in parentheses. Difference = difference in means between borrowers and loan-averse students. Loan aversion categories were defined in the following ways: Administrative: If a student accepted none of his/her loan offer (if offered any). Survey: If responded he/she would not take any money at a 7 percent interest rate. The sample includes UW System administrative consenters with both survey and administrative data on loan aversion.

SOURCE: Sources for each measure are listed in Table 10.1.

stronger academic preparation and greater expected earnings are more likely to borrow. However, unexpectedly, students who find college more difficult are also more likely to borrow.

Perhaps most remarkable given current policy efforts, we find no statistically significant evidence that financial knowledge is related to borrowing behaviors among these low-income students. There is some indication that students who perceived themselves as financially competent were more loan averse, but the finding is sensitive to how loan aversion is measured and cannot be said to differ from zero. Thus, it does not appear that increasing the financial education of these students would alter their borrowing behavior.

Also contrary to prior studies, we find that in this sample of Pell Grant recipients, loan aversion is associated with a longer time horizon. The vast majority of students (about 84 percent) reported a willingness to sacrifice today for tomorrow, and while this did not differ for loan-averse students, those who were averse to loans were far more likely to choose to receive $500 in three years rather than a smaller amount of money sooner. It seems these students may forgo the short-term need for resources for what they perceive as a better deal in the future (having less debt). This is consistent with the finding that students with self-control are also overrepresented among loan-averse students.

Loan aversion appears to be offset by the decision to work during college. While not statistically significant, results indicate that students who worked in high school are more likely to borrow, while those working in college are less likely to borrow.

Finally, there is some evidence that the form of social capital held by students relates to their loan aversion. Students who believe they can get financial help if they need it are less likely to borrow, as are students who got help from someone other than a family member when applying for college. In other words, they may have additional supports that either help them perceive that loans are unnecessary or are inadvisable.

The measure used to define loan aversion generally does not seem to affect the description of who is loan averse and who is a borrower, with a few exceptions. First, and most importantly, if students are classified as loan averse using the survey data, then non-Hispanic white students are equally represented among loan takers and nontakers. However, if loan aversion is measured with administrative data, non-Hispanic white students are substantially overrepresented among loan takers. Also, the

degree of loan aversion is much larger among Southeast Asian students when measured using administrative records compared to surveys. It is also possible that the survey and administrative measures may capture somewhat different aspects of loan aversion—for example, students may be more likely to decline loans in their first semester of college because they can gain support from their families while still expressing a desire to avoid taking on additional loans.

While the differences are not statistically significant, the trends regarding gender point in opposite directions using different data sources. Relying on the survey measure, women are more loan averse than men, but relying on the administrative measure, men are more averse than women.

The measurement of loan aversion has implications for some of these differences. For example, when aversion is assessed using the survey measure, it appears that borrowing is unrelated to whether a student is non-Hispanic white, has a lower expected family contribution, the family does not contribute to their education, or the number of hours they are working. However, if the administrative data is used to measure loan aversion, we find that non-Hispanic white students are more likely to borrow, as are students with higher EFCs, while students whose families do not support them and who work longer hours are more loan averse. The strength of the relationships between student characteristics and loan aversion also vary widely according to how aversion is measured.

Institutional Level

Financial aid administrators at the colleges and universities initiate the process of borrowing for students, and students' decisions are made in the context of their campus affordability climates (Goldrick-Rab and Kendall 2013). For this reason, we next explore how loan-taking behaviors varied according to the specific college or university students attended. Table 10.5 reveals that the percentage of loan-averse students varies substantially across these Wisconsin institutions, ranging from just 7.8 percent at the most selective institution (University B) to 38.8 percent at the two-year branch campuses.[12] These differences correlate with the academic abilities of students (the correlation between ACT score and loan aversion is around $r = -0.72$). But they do not align

Table 10.5 Distribution of Borrowing Behavior (Measured Using Administrative Data) by Campus and Selectivity

Campus	Loan averse (%)	ACT 25	ACT 75	Net price ($)	% Pell	Graduation rate	Default rate	Retention rate	% minority
UW colleges	38.8	18	23	4,566	24	20	8.5	82.0	9.1
Four-year	15.7								
Most selective									
University A	8.3	23	26	6,266	17	69	2.2	83.9	6.8
University B	7.8	26	30	6,246	12	81	1.4	93.8	12.8
Total	8.0								
Somewhat selective									
University C	11.9	20	24	6,779	21	51	3.5	75.8	7.4
University D	9.1	20	25	6,225	25	56	4.5	74.0	5.0
University E	16.7	20	24	6,418	22	55	4.2	74.9	5.9
University F	9.8	21	25	6,474	25	61	3.8	78.4	5.8
University G	10.0	20	24	4,657	38	41	9.2	71.6	7.0
University H	10.9	20	24	5,506	20	56	4.5	78.0	9.5
Total	11.1								
Least selective									
University I	18.7	19	24	8,578	23	43	5.7	73.3	17.0
University J	35.9	18	23	7,940	32	27	10.4	64.3	22.8
Total	24.5								

NOTE: All students in this analysis were offered a loan. Selectivity categories are based on retention rates and ACT scores. All institutional characteristics are from the 2008–2009 academic year, except student loan default rates, which are for the FY 2009 cohort. The net price listed is for the lowest-income students ($0–$30,000 per year family income). Student loan default rates listed here are over a three-year period. Institutions are not named consistent with the WSLS data agreement.

SOURCE: University of Wisconsin System campus aid officers (loan offers and acceptances); IPEDS (percent Pell, ACT, grad rate, and net price); U.S. Department of Education (default rate); UW System Fact Book (retention rate and percent minority).

with the institution's sticker price and available financial aid—many other institutions have similar net prices but different rates of loan aversion. It is also worth noting the range of students rejecting *part* of their loans—this is again most uncommon at selective institutions, but it is most common among three of the somewhat selective universities, and this is not easily explained by examining the characteristics of those institutions.

Focusing on the 10 universities, the highest rates of loan aversion are evident at the least selective schools, where students have the lowest ACT scores and graduation rates, face the highest net prices and highest default rates, and where the proportion of students on campus from racial/ethnic minority backgrounds and/or receiving the Pell Grant are among the highest. The lowest rates of loan aversion are found at the most selective institutions enrolling the smallest fraction of Pell recipients on their campuses, and where default rates are exceptionally low and graduation rates are exceptionally high. This suggests the possibility that either the institutional context in which students make their decisions about loans may contribute to their decisions, and/or these variations reflect strong sorting processes of borrowers across schools. Again, this merits future investigation.

EXPLAINING LOAN AVERSION

We now examine whether the observed differences in loan aversion discussed above persist when taking multiple differences among students into account. We also consider whether the observed demographic differences in loan aversion can be explained by the hypothesized moderating factors described earlier. Finally, we consider the variation in explanatory power of these factors, depending on how loan aversion is measured.

Multivariate Analyses

Net of a wide range of individual characteristics and controlling for the institution attended, the analysis of loan aversion measured using

survey data reveals that black students are far more likely than non-Hispanic white students to borrow, and second-generation immigrants are much more likely than native students to borrow as well (see Table 10.6). Loan-averse students do not view debt as part of today's lifestyle and are unwilling to borrow to pay for a nicer lifestyle now. At the same time, they are also more likely to have been assisted by a college-educated person when completing the FAFSA, and to feel that they can find financial help if they need it in order to avoid having to drop out of college. Unexpectedly, students who find college *more* difficult are more likely to borrow—and this is after taking into account differences in their academic preparation and work behaviors. It may be that students who find college more difficult are more realistic and/or aware of their academic challenges, and thus are borrowing loans to free themselves to focus on school.

This same analysis also suggests that black and non-Hispanic white students vary in how they view debt (termed "self control" in the tables), and once that variation is accounted for, black students are more likely than non-Hispanic white students to borrow.[13] This relationship is strengthened after additional differences in work behavior and social capital are leveled. Similarly, second-generation immigrant students appear more likely than native students to view college as difficult, and once that difference is ameliorated, differences in immigrant status in loan taking appear more prominent. It is notable that first-generation immigrants appear somewhat more loan averse than native students, while second-generation immigrants are far less loan averse.

In sharp contrast, the same analyses using administrative data to measure loan aversion fail to identify any statistically significant relationships between these theoretically important factors and loan aversion (see Table 10.7). Using the exact same sample of students but measuring aversion as declining a loan offered, none of the observed disparities in borrowing behavior (such as those indicated in the administrative data panel of Table 10.3) persist net of other factors. This may be attributable to the much smaller number of students classified as loan averse using the administrative measure, which requires students to decline loans in a specific term (the same term in which the survey was fielded). If the estimates were more precise and the observed coefficients held, we might observe some similar patterns to the survey results but with much smaller disparities.

Table 10.6 Predicting Loan Aversion Using Student Characteristics: Survey Data

Dependent variable: Declined to accept any money in hypothetical loans						
Measure	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Female	0.002	0.010	0.008	0.006	−0.004	0.001
	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)
Latino	−0.009	−0.020	−0.038	−0.065	−0.077	−0.072
	(0.106)	(0.103)	(0.101)	(0.098)	(0.095)	(0.096)
Hmong (Southeast Asian)	0.097	0.127	0.186	0.098	0.094	0.130
	(0.167)	(0.175)	(0.179)	(0.177)	(0.180)	(0.182)
Native American	−0.006	0.029	0.016	0.057	0.064	0.100
	(0.148)	(0.157)	(0.155)	(0.154)	(0.159)	(0.164)
Black	−0.137*	−0.139*	−0.176**	−0.176**	−0.186**	−0.183**
	(0.077)	(0.082)	(0.079)	(0.075)	(0.076)	(0.072)
Parental education < bachelor's degree	−0.085	−0.091	−0.079	−0.077	−0.075	−0.031
	(0.060)	(0.062)	(0.062)	(0.063)	(0.063)	(0.065)
First-generation immigrant	0.241	0.244	0.233	0.119	0.133	0.145
	(0.167)	(0.179)	(0.186)	(0.178)	(0.180)	(0.179)
Second-generation immigrant	−0.120	−0.147	−0.153	−0.173**	−0.169**	−0.161*
	(0.101)	(0.098)	(0.093)	(0.084)	(0.086)	(0.085)
English not first language	−0.006	0.045	0.021	0.177	0.167	0.164
	(0.156)	(0.164)	(0.160)	(0.174)	(0.175)	(0.176)
Net price ($000s)	−0.034	−0.037	−0.038	−0.037	−0.038	−0.037
	(0.025)	(0.028)	(0.038)	(0.042)	(0.041)	(0.044)

Childhood poverty	—	−0.020	−0.027	−0.034	−0.052	−0.043
	—	(0.067)	(0.066)	(0.064)	(0.064)	(0.063)
EFC ($000s)	—	0.018	0.017	0.017	0.021	0.015
	—	(0.030)	(0.030)	(0.030)	(0.033)	(0.029)
Zero EFC	—	0.063	0.079	0.048	0.052	0.060
	—	(0.076)	(0.075)	(0.076)	(0.078)	(0.076)
Financial reciprocity	—	−0.020	−0.021	−0.046	−0.074	−0.040
	—	(0.083)	(0.08)	(0.076)	(0.075)	(0.078)
Financial obligation to family	—	0.047	0.070	0.078	0.076	0.081
	—	(0.056)	(0.056)	(0.056)	(0.056)	(0.057)
No financial help from family	—	−0.035	−0.039	−0.044	−0.039	0.001
	—	(0.058)	(0.056)	(0.054)	(0.055)	(0.061)
Credit card debt ($000s)	—	−0.173	−0.148	−0.153	−0.156	−0.160
	—	(0.153)	(0.165)	(0.190)	(0.189)	(0.209)
Extremely likely to complete BA	—	0.005	0.001	−0.011	−0.010	−0.036
	—	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)
ACT score	—	—	0.007	0.007	0.006	0.006
	—	—	(0.014)	(0.015)	(0.014)	(0.014)
Strong high school coursework (%)	—	—	−0.109	−0.099	−0.099	−0.106
	—	—	(0.076)	(0.077)	(0.078)	(0.076)
College difficulty	—	—	−0.150***	−0.157***	−0.155***	−0.158***
	—	—	(0.051)	(0.050)	(0.051)	(0.051)
Expected earnings from college (log $)	—	—	−0.050	−0.049	−0.042	−0.038
	—	—	(0.065)	(0.068)	(0.063)	(0.063)

(continued)

Table 10.6 (continued)

Measure	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Financial knowledge (0–15)	—	—	−0.001	0.003	0.003	0.006
	—	—	(0.024)	(0.024)	(0.024)	(0.025)
Above avg financial knowledge	—	—	−0.046	−0.071	−0.077	−0.088
	—	—	(0.090)	(0.090)	(0.092)	(0.092)
Perceived financial competence	—	—	0.062	0.040	0.040	0.039
	—	—	(0.051)	(0.050)	(0.051)	(0.050)
Time horizon: $100 in 3 months	—	—	—	0.045	0.040	0.021
	—	—	—	(0.085)	(0.086)	(0.085)
Time horizon: $250 in 1 year	—	—	—	−0.077	−0.077	−0.093
	—	—	—	(0.072)	(0.074)	(0.070)
Time horizon: $500 in 3 years	—	—	—	0.069	0.070	0.044
	—	—	—	(0.069)	(0.070)	(0.070)
Willing to sacrifice today for tomorrow	—	—	—	−0.001	−0.012	0.005
	—	—	—	(0.077)	(0.080)	(0.077)
Generalized debt aversion	—	—	—	0.139	0.138	0.182
	—	—	—	(0.125)	(0.126)	(0.127)
Self-control	—	—	—	0.146***	0.135**	0.132**
	—	—	—	(0.052)	(0.053)	(0.054)
Internal locus of control	—	—	—	−0.030	−0.002	−0.038
	—	—	—	(0.183)	(0.177)	(0.184)
Worked in high school	—	—	—	—	−0.028	−0.027
	—	—	—	—	(0.067)	(0.069)

Currently working	—	—	—	—	0.097	0.084
	—	—	—	—	(0.073)	(0.073)
Number of hours currently working	—	—	—	—	0.000	0.001
	—	—	—	—	(0.004)	(0.004)
Family helped on FAFSA	—	—	—	—	—	0.002
	—	—	—	—	—	(0.071)
Other person helped on FAFSA	—	—	—	—	—	−0.114*
	—	—	—	—	—	(0.069)
FAFSA help from college-educated person	—	—	—	—	—	0.095*
	—	—	—	—	—	(0.052)
Could get financial help if needed	—	—	—	—	—	0.106*
	—	—	—	—	—	(0.056)
F-value	2.58	2.27	2.40	2.20	2.06	2.01
Sample size	472	472	472	472	472	472

NOTE: *p < 0.10; **p < 0.05; ***p < 0.01. A missing data flag for childhood poverty is included in the model but not reported (not significant). The regression also controls for college fixed effects. All students in this analysis were offered a loan. Standard errors are in parentheses. The coefficients are the result of a probit model with marginal effects.

SOURCE: Sources for each measure are listed in Table 10.1.

Table 10.7 Predicting Loan Aversion Using Student Characteristics: Administrative Data

Dependent variable: Declined to accept any loans, if offered.

Measure	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Female	0.011	0.012	0.012	0.007	0.009	0.006
	(0.012)	(0.013)	(0.012)	(0.008)	(0.010)	(0.007)
Latino	0.007	0.013	0.009	0.008	0.005	0.004
	(0.018)	(0.025)	(0.022)	(0.017)	(0.015)	(0.010)
Hmong (Southeast Asian)	0.035	0.077	0.081	0.084	0.083	0.064
	(0.052)	(0.090)	(0.094)	(0.096)	(0.100)	(0.078)
Native American	0.006	0.015	0.020	0.015	0.028	0.014
	(0.020)	(0.034)	(0.037)	(0.030)	(0.045)	(0.026)
Black	−0.010	−0.014	−0.014	−0.010	−0.010	−0.007
	(0.010)	(0.013)	(0.012)	(0.009)	(0.010)	(0.007)
Parental education < bachelor's degree	−0.010	−0.011	−0.011	−0.007	−0.007	−0.007
	(0.013)	(0.016)	(0.015)	(0.011)	(0.012)	(0.010)
First-generation immigrant	0.016	0.011	0.014	0.011	0.013	0.011
	(0.030)	(0.027)	(0.028)	(0.023)	(0.027)	(0.021)
Second-generation immigrant	−0.000	−0.005	−0.004	−0.007	−0.005	−0.004
	(0.012)	(0.011)	(0.011)	(0.008)	(0.008)	(0.006)
English not first language	0.002	0.001	0.003	0.008	0.004	0.003
	(0.014)	(0.016)	(0.017)	(0.018)	(0.014)	(0.011)
Net price ($000s)	−0.003	−0.001	−0.001	−0.001	−0.001	−0.001
	(0.014)	(0.008)	(0.009)	(0.006)	(0.009)	(0.007)
Childhood poverty	—	−0.007	−0.006	−0.003	−0.006	−0.004

	—	(0.008)	(0.008)	(0.006)	(0.007)	(0.005)
EFC ($000s)	—	−0.007	−0.007	−0.006	−0.006	−0.008
	—	(0.042)	(0.054)	(0.051)	(0.050)	(0.041)
Zero EFC	—	−0.004	−0.003	−0.004	−0.004	−0.002
	—	(0.010)	(0.009)	(0.007)	(0.007)	(0.005)
Financial reciprocity	—	0.006	0.009	0.007	0.003	0.004
	—	(0.012)	(0.013)	(0.010)	(0.008)	(0.008)
Financial obligation to family	—	0.004	0.004	0.003	0.003	0.003
	—	(0.008)	(0.007)	(0.005)	(0.006)	(0.005)
No financial help from family	—	0.007	0.005	0.003	0.003	0.007
	—	(0.011)	(0.009)	(0.006)	(0.007)	(0.009)
Credit card debt ($000s)	—	−0.001	0.001	0.001	0.001	0.001
	—	(0.007)	(0.008)	(0.010)	(0.005)	(0.009)
Extremely likely to complete BA	—	0.015	0.015	0.012	0.012	0.008
	—	(0.015)	(0.014)	(0.011)	(0.011)	(0.008)
ACT score	—	—	0.001	0.000	0.000	0.000
	—	—	(0.007)	(0.003)	(0.003)	(0.002)
Strong high school coursework (%)	—	—	−0.002	−0.004	−0.005	−0.005
	—	—	(0.009)	(0.008)	(0.010)	(0.008)
College difficulty	—	—	−0.006	−0.004	−0.005	−0.003
	—	—	(0.007)	(0.006)	(0.006)	(0.005)
Expected earnings from college (log $)	—	—	−0.015	−0.012	−0.010	−0.008
	—	—	(0.105)	(0.091)	(0.085)	(0.065)
Financial knowledge (0–15)	—	—	−0.004	−0.003	−0.004	−0.002

(continued)

Table 10.7 (continued)

Measure	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	—	—	(0.030)	(0.023)	(0.030)	(0.019)
Above average financial knowledge	—	—	0.011	0.007	0.010	0.007
	—	—	(0.013)	(0.009)	(0.011)	(0.008)
Perceived financial competence	—	—	0.002	0.000	0.001	−0.000
	—	—	(0.007)	(0.005)	(0.005)	(0.004)
Time horizon: $100 in 3 months	—	—	—	0.004	0.007	0.005
	—	—	—	(0.011)	(0.013)	(0.010)
Time horizon: $250 in 1 year	—	—	—	0.021	0.025	0.019
	—	—	—	(0.024)	(0.027)	(0.022)
Time horizon: $500 in 3 years	—	—	—	0.018	0.018	0.013
	—	—	—	(0.018)	(0.018)	(0.014)
Willing to sacrifice today for tomorrow	—	—	—	0.007	0.006	0.004
	—	—	—	(0.007)	(0.007)	(0.006)
Generalized debt aversion	—	—	—	−0.002	−0.002	−0.001
	—	—	—	(0.008)	(0.008)	(0.007)
Self-control	—	—	—	0.003	0.003	0.002
	—	—	—	(0.005)	(0.005)	(0.004)
Internal locus of control	—	—	—	0.007	0.005	0.004
	—	—	—	(0.009)	(0.010)	(0.007)
Worked in high school	—	—	—	—	0.001	0.002
	—	—	—	—	(0.005)	(0.004)

Currently working	—	—	—	—	−0.009	−0.008
	—	—	—	—	(0.010)	(0.009)
Number of hours currently working	—	—	—	—	0.001	0.001
	—	—	—	—	(0.007)	(0.005)
Family helped on FAFSA	—	—	—	—	—	0.003
	—	—	—	—	—	(0.005)
Other person helped on FAFSA	—	—	—	—	—	−0.003
	—	—	—	—	—	(0.005)
FAFSA help from college-educated person	—	—	—	—	—	−0.001
	—	—	—	—	—	(0.004)
Could get financial help if needed	—	—	—	—	—	0.007
	—	—	—	—	—	(0.008)
F-value	3.33	2.65	2.80	2.46	2.22	2.00
Sample size	472	472	472	472	472	472

NOTE: *p < 0.10; **p < 0.05; ***p < 0.01. A missing data flag for childhood poverty is included in the model, but not reported (not significant). The regression also controls for college fixed effects. All students in this analysis were offered a loan. Standard errors are in parentheses. The coefficients are the result of a probit model with marginal effects.

SOURCE: Sources for each measure are listed in Table 10.1.

LOAN AVERSION AND EDUCATIONAL OUTCOMES

There are many mechanisms through which aversion to borrowing could affect educational outcomes, which could include both positive and negative pathways. For example, loan aversion may mean that students work harder and invest more energy in school to finish faster. Or it may mean that students must attend school part-time in order to afford college (Cunningham and Santiago 2008). The most important issue, however, is that selection into loan aversion is likely to bias the estimates of impacts. In other words, if loan-averse students are more often from families with less overall financial stability, this may overstate the negative impact of aversion for educational outcomes. In the present analysis we are not able to adequately remove potential biases resulting from unobserved characteristics of both students and their schools, which correlate both with loan aversion and the chances of college persistence. Thus, our results are best thought of as correlational.

The way in which loan aversion is measured has implications for whether or not it is associated with retention to the second year of college. As Table 10.8 indicates, if aversion is measured using survey data, we find that loan-averse students are 10 percentage points *more likely* to persist in college to their second year, whereas using the administrative data we observe no relationship whatsoever. But, net of other observable characteristics, borrowers outperform loan-averse students, enrolling for more semesters, earning more credits, and higher grade point averages. The results based on the administrative data indicate that borrowers had somewhat weaker outcomes than loan-averse students with regard to enrollment each term and earned a slightly lower cumulative grade point average (see Table 10.8).

DISCUSSION

Many of our descriptive findings echo those produced by Cunningham and Santiago's (2008) analysis of the 2003–2004 NPSAS data, confirming racial/ethnic variation in loan aversion, for example.[14] This sample exhibits less loan aversion overall, probably because the stu-

Table 10.8 Academic Outcomes by Borrowing

	Administrative data measure			Survey measure		
		Regressions			Regressions	
Measure	Loan averse	Unadjusted	Covariate-adjusted	Loan averse	Unadjusted	Covariate-adjusted
Enrollment by term						
Spring 2009	95.7	−0.5	−0.2	94.4	3.4**	4.2**
		(2.1)	(3.1)		(1.5)	(2.0)
Fall 2009	82.4	0.2	−4.8	78.1	10.5***	8.9***
		(3.9)	(3.9)		(2.9)	(3.1)
Spring 2010	76.2	1.4	−1.8	73.5	9.0***	6.9**
		(4.5)	(4.8)		(3.4)	(3.5)
Fall 2010	70.9	0.2	−3.2	66.9	10.2***	9.3**
		(4.8)	(5.8)		(3.7)	(4.1)
Spring 2011	70.6	−2.5	−8.3	65.4	7.8**	5.1
		(4.8)	(6.2)		(3.8)	(4.4)
Credits earned	64.8	2.0	−1.8	63.7	6.3***	4.6**
		(2.9)	(3.1)		(2.2)	(2.1)
On 4-year track (90 credits)	18.3	5.3	2.5	22.8	−0.2	−2.2
		(4.2)	(5.2)		(3.5)	(3.8)
Semesters enrolled	4.96	−0.07	−0.18	4.78	0.41***	0.31**
		(0.17)	(0.19)		(0.13)	(0.12)
Cumulative GPA	2.58	−0.05	−0.22***	2.42	0.26***	0.23***
		(0.08)	(0.08)		(0.07)	(0.06)
Sample size	128	684	678	401	684	678

NOTE: *p < 0.10; **p < 0.05; ***p < 0.01. All students in this analysis were offered a loan. Standard errors are in parentheses. OLS is used for continuous outcomes, while a probit model with marginal effects is used for binary outcomes. Covariate-adjusted estimates include race, gender, parental education, age, EFC, total grants accepted, and campus fixed effects.

SOURCE: University of Wisconsin System.

dents all received grant aid *and* attended college full time initially, factors that the authors found were associated with lower rates of loan aversion. However, our data and methods allowed us to dig deeper into both the accuracy of the assessment of loan aversion and the meaning of it. In particular, the additional examination of variation in borrowing behaviors according to immigration status and language spoken at home highlights some additional reasons to attend to variation in borrowing behaviors. The fastest growing segments of the undergraduate populations, especially at public two-year colleges, appear more disinclined to borrow.

Our analysis is consistent with recent research suggesting that declining student loans may not be irrational, but rather reflect students' and their families' tastes for commitment and preference for making do without debt (Cadena and Keys 2013). Students who borrow may not share these preferences or may find them outweighed by other needs, and they are more likely to find themselves having difficulty in college. We find complementary evidence from in-depth interviews conducted for the same study with a focal sample of 50 WSLS participants interviewed repeatedly over a five-year period. One student refused to borrow, putting great emphasis on his selection of a roommate who would support his choices to maximize his time spent working, minimize the time spent on leisure, live frugally, and focus on school. Another student was far less focused, trying to attend to every relationship in her life at the same time, prioritizing school, family, boyfriend, and work to the detriment of her physical and mental health, which ultimately drove her to take on loans shortly before dropping out of school.

Perhaps the greatest lesson from this study, however, is that the measurement of loan aversion affects conclusions about which students refuse to borrow and why. Most studies of loan aversion rely on student surveys, which this chapter suggests may overstate the prevalence of antiborrowing attitudes. This could mean that loan aversion is less common than previously estimated. On the other hand, it is also possible that the apparent disconnect between students' preferences and their actions does not reveal an inconsistency but rather points to constrained choices. It may be that students are borrowing when they prefer not to, which could contribute to negative outcomes of borrowing down the road. An increasing debt burden held by individuals who strongly preferred not to have debt could also have public policy implications.

It is possible that these debt holders will push for a policy solution that helps reduce the burden immediately after leaving college. Research by Ozymy (2012) suggests that lower-income college students are more likely to contact their elected officials regarding student loans than higher-income students, and self-interest is the likely reason. This could result in accelerating the shift in policy toward income-based repayment options from fixed repayment options.

Limitations

While this study has several strengths, including the use of multiple forms of data to measure loan aversion, detailed information on students' attitudes and behaviors, and the ability to connect loan aversion to educational outcomes, it also suffers some significant limitations. First and most importantly, the sample is constrained to a fraction of all Wisconsin Pell recipients, who likely differ in key ways from the national population of such students. Second, it is difficult to ascertain whether observed measurement differences in loan aversion are attributable to the difference between stated preferences and actual behavior, timing, or something else. Third, the analyses are relatively small in size, limiting statistical power.

Implications and Future Research

There is a critical question looming large and unanswered in this analysis, essential for how readers think about next steps: Is loan aversion a concern? Some will readily answer yes, thinking that deciding not to borrow means that students will be worse off in the long run if borrowing would have increased their chances of degree completion compared to the alternatives. Loan-averse students, in other words, may have a reduced risk of being burdened with unmanageable debt, while also increasing their chances of college dropout and reducing their expected lifetime earnings.

On the other hand, there are additional opportunity costs that accrue to some students, including those who are most often loan averse. The typical calculation for assessing whether debt is manageable and optimal compared to the returns to college relies on a comparison to a student's future earnings. Debt to future earnings ratios are most often the

focus of calculations regarding the appropriateness of loans. However, not only do students from low-income families face more constrained labor markets and employment discrimination than other students, thus lowering their projected future earnings, but they also come from families with more existing debt and greater financial need—meaning that a portion of their future earnings are often already committed to their families, as a form of familial debt (Burton 2007). Thus it may be more appropriate to focus on debt to household ratio when assessing the rationality of loan aversion, and include a student's natal family (and even extended kin network) in that household calculation.

Today, nearly one in five households has student debt—double the share of two decades earlier—with an average balance of more than $26,000. While higher education advocates are right to point out that college is a good investment, and the price of a new sedan is comparable, they miss a critical point: poor families owe 24 percent of their household income to student debt, compared to 7 percent or less for families making more than $60,000 a year (Fry 2012). While the *amount* of debt may be relatively similar across levels of family income, its meaning is quite different. With such a differential impact on poor families, loan aversion may be a smart decision. The relevant lack of aversion, in other words, could also be viewed as problematic.

In the future, researchers should think about ways to increase the precision of how we measure loan-taking decisions (using both surveys and administrative data) so that it becomes possible to intervene to facilitate student decisions consistent with their own preferences and intentions. It would also be useful to conduct detailed mixed-method ethnographic studies of students and low-income families to examine how decisions about loan taking affect the degree to which higher education helps to increase their social mobility or perpetuates their economic struggles.

Notes

The Bill and Melinda Gates Foundation, Great Lakes Higher Education Guaranty Corporation, Institute for Research on Poverty, Spencer Foundation, William T. Grant Foundation, Wisconsin Center for the Advancement of Postsecondary Education, and an anonymous donor provided funding for this study, conducted in partnership with the Fund for Wisconsin Scholars, the Higher Educational Aids Board, the University of Wisconsin System, and the Wisconsin Technical College System. The authors thank Allie Gardner and Kaja Rebane for their help and support. All mistakes reside with the authors. Contact the lead author at srab@education.wisc.edu with questions and comments.

1. A small fraction of students attend colleges that do not participate in the Title IV financial aid program (these are mainly for-profit institutions), or colleges that decline to offer loans (most often community colleges and/or minority serving institutions).
2. Estimates vary; one recent study suggests that overall about one in six students at public and private four-year colleges and universities declines the entirety of the subsidized loans offered to them (Cadena and Keys 2013).
3. While some argue that the relevant ratio is debt-to-postgraduation income, it is important to recognize that among low-income families, money is often shared—that is, children continue to contribute to their families postgraduation and receive little financial assistance in return—and students more often reside in areas with fewer employment opportunities and lower wages.
4. The latest NPSAS was just released but is unavailable at the time of this writing because of the government shutdown.
5. Samples in this chapter are too small to examine differential patterns according to loan subsidization.
6. Net price is the difference between the institution's cost of attendance (the sticker price, including tuition, fees, room and board, and all other estimated costs) and all grant aid students receive. The net price thus includes the family's expected contribution (officially calculated by a federal formula) and all funds they are left to earn or borrow to pay for college.
7. The lead author directs the Wisconsin Scholars Longitudinal Study (WSLS), and more details about the study can be found at www.finaidstudy.org and in Goldrick-Rab et al. (2012). All data included in this analysis were collected over a five-year period by the WSLS research team.
8. Interest rates on unsubsidized Stafford Loans have been fixed at 6.8 percent from 2006–07 to 2012–13. The interest rate on subsidized Stafford Loans declined from 6.8 to 6.0 percent for loans issued in 2008–09, 5.6 percent in 2009–10, 4.5 percent in 2010–11, and 3.4 percent in 2011–12 and 2012–13. It remains 3.4 percent for the 2012–13 academic year. Beginning July 1, 2013, all interest rates are tied to the 10-year Treasury note.

9. Subsidized and unsubsidized Stafford Loans carry different repayment protections. Today, under Income-Based Repayment, the government will pay the interest for up to three years for borrowers whose incomes are too low to cover interest payments on their subsidized loans, but this is not the case for unsubsidized Stafford Loans.
10. We thank Dr. Stephen DesJardins for noting in his published papers that requesting loan offers when obtaining financial aid data is essential to exploring financial aid packages and their impacts.
11. We also considered defining a student as loan averse if s/he declined at least half of all of the loans offered. The correlation between the two measures was weaker (0.16), which is unsurprising, since the survey measure required rejection of all loans offered. We also considered categorizing a student as loan averse if s/he declined all unsubsidized loans, since the interest rate in the survey question was more consistent with these. The correlation between the survey and administrative measures this way was 0.28, suggesting that at least some students thought of the survey question as regarding that type of loan. However, we have a much smaller sample of those students compared to all students offered any loans, and declining subsidized loans is a behavior worth examining, so we focus on that larger sample here.
12. Consistent with the WSLS data agreement, universities are not named here.
13. In analyses not shown, we also find that students from three of the poorest areas in the state—Milwaukee, Kenosha, and Racine—are more loan averse.
14. Cunningham and Santiago (2008) found more aversion among Chinese and Vietnamese students, while we identified substantial aversion among Hmong students.

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